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County Agent's Notes: Why can't I grow grass? - April 8, 2002

Ernest "Ernie" Flint Jr.

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Why can't I grow grass?

By: Dr. Ernie Flint, Area Agent/Agriculture
Mississippi State University Extension Service

One of the most common questions we are asked is "Why can't I grow grass?" Of course there are as many different situations connected with poor growth of turfgrass as there are home sites. Each landscape has its own unique "microclimate" as a result of interactions among such factors as soil type and fertility, shade, slope, drainage, traffic, and other plants in the area.

All things considered, some type of grass will grow in almost all of our local soils. There are exceptions to this statement; these include "salt lick" or "white soil" areas that are occasionally found around this area. These areas require special treatment for grass to grow well. The addition of organic matter and gypsum to neutralize toxic elements like sodium, aluminum, and manganese may be required. Some of these areas may require subsurface drainage since they tend to appear where intermittent springs are found. Water rises in these areas, bringing the toxic elements to the surface.

The main problem we have with our soils is simple low fertility. A soil test should be done to determine the best approach to correcting fertility, but the most common problems are low pH, low phosphorus, and low potash levels. Since many people want a "quick" answer to the problem, I usually suggest adding 75 to 100 pounds of agricultural lime and 5 to 7 pounds of triple thirteen per thousand square feet. This usually fixes the soil if low fertility is the problem, but I always caution that doing this every year will create problems in the future. A soil test should be done about every three years to avoid over-fertilization.

Shade is another big problem for many lawns. Landscapes with lots of hardwoods like oak, pecan, and walnut are especially difficult for growing grass. The combined effects of dense shade and the fact that these and some other trees chemically suppress the growth of other plants presents an especially difficult situation. We see the sap from these trees as sticky stuff on parked autos; it contains tannic acid and other chemicals that act as natural herbicides, making it next to impossible to grow grass. Leaves also release these chemicals into the soil as they decompose.

Liming, fertilizing, and adding organic matter may help temporarily, but trees will ultimately win the battle. In these situations, you may need to consider ground covers that tolerate the problems. There are several choices, including dwarf mondo "grass" which is not really a grass at all but a cousin of monkey "grass". These plants are actually in the lily family. Care is very different from grass, but mondo offers many of the benefits of grass. Given the choice between shade and grass I prefer shade in most cases because of the cooling effect in summer. A tree surgeon may be able to selectively thin trees to allow more sunlight which will

help grass grow. Under pines, grasses like zoysia, St. Augustine, centipede, and fescue should do reasonably well, but Bermuda may suffer.

Slope becomes a problem when it interferes with sunlight, when it causes the loss of topsoil, and when it causes difficulty in caring for grass. Severe slopes are often the result of construction or road-building. Homes are seldom near natural slopes so steep as to present problems. When the soil has been cut to a steep slope, toxic subsoil is usually exposed, making grass very difficult to grow. Again, liming, fertilizing, and adding organic matter may help solve the problem. Ground covers like ivy or periwinkle may be a better solution than grass. For large slope areas, weeping lovegrass may be a good choice, but few people want this tough grass in a landscape.

Poor drainage is another big problem for low areas in landscapes, and it may also be a problem for high areas that are extremely flat or "dish-shaped" which hold water after heavy rains. Soils in poorly drained areas have two extremely different but related problems: grass roots do not develop well because the soil is saturated during wet periods, and grasses in these areas die quickly during dry periods because they don't have deep roots to access water when rains are infrequent. Some form of surface or subsurface drainage must be provided for grass to grow properly.

Traffic may be a big problem in public areas where people, animals, or vehicles travel frequently. Grass type may be the solution; Bermuda tolerates traffic best, while centipede can stand very little traffic. Other good traffic grasses are zoysia and St. Augustine. Good traffic grasses grow rapidly, repairing themselves quickly after damage is done. Poor traffic grasses like centipede and carpet grow slowly. Installing a walkway may be another solution, especially if the area is shady.

There are other problems resulting from previous uses of the area. These may include areas where fuels or oils were spilled in the past, old smokehouse locations where salt has been spilled, old road beds where the soil is deeply compacted, and others. Solutions include removal of the soil and replacing with good soil, deep working to destroy compaction, and the addition of organic matter or charcoal to deactivate toxins.

I hope this covers some of the questions many of you have about growing grass in difficult locations. Call if I can be of further help.